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->From the Editor's Keyboard  
"~~~~~"

"Saying it like it is!"

Well, the flood waters are receding in New England. We just about reached our water needs for the year, in one single storm. My town had the second highest rainfall total for this part of state, yet we really didn't see any major effects from the storm. Yes, my backyard had some large areas of water, but that's common for any rain storm. It just didn't seem that bad out there despite the totals. Hopefully, the major storms are past us and we may get some warm weather soon. Then again, this is New England - I'll believe it when I'm basking in it!

Lots of interesting stories in the news this week. There have been numerous battles with spammers - with the spammers taking the worst of it. That's always good news for the rest of us. There continues to be a lot of effort being made to go after spam, so we'll continue the watch.

There's a very interesting article this week in the gaming section of A-ONE. It's about the benefits of video gaming with regard to surgeons. Amazingly, surgeons who have played a lot of video games, or currently do so, appear to have better surgery success rates. Check it out!

Until next time...

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PEOPLE ARE TALKING  
compiled by Joe Mirando  
joe@atarinews.org

Hidi ho friends and neighbors. It looks like spring may have finally sprung here in the northeast. The weather is a little milder now, and the fear (and for some, even the memory) of snow is gone.

To me, this is the most wondrous time of the year. This is when everything gets the message from Mother Nature to grow and turn green. All the living things out there are metaphorically stretching their legs and hitting their growth spurt.

This may sound like I'm changing subjects, but give me a minute. One of the current crazes in the energy industries right now is fuel cells. The most efficient fuel cells use hydrogen to produce electrical energy without the nasty by-products like carbon monoxide and the like. Hydrogen fuel cells combine the hydrogen with oxygen and produce only electricity, heat, and water.

Sounds like an ideal source of energy, right? Well the problem is that while hydrogen is abundant, it's just about always bound to something else... usually oxygen. Dihydrogen monoxide is one of the most common compounds on the face of the earth. More than two thirds of the surface of the earth is covered by it. But you need to strip the hydrogen from the oxygen before you can use it in a fuel cell. And the easiest way to do that is by running an electric current through it. NOW you have to generate the electricity you need to create the fuel to (wait for it) generate electricity. President Bush wants to set up a bunch of mini nuclear reactors to generate the electricity needed to electrolyze water (the aforementioned dihydrogen oxide). That doesn't sound like a very economical... or even particularly friendly... way to solve our energy problems.

Okay, now we get to the part that brings us back to Mother Nature. The stripping of hydrogen from water that we're talking about happens all the time all around us. It's what every tree, every flower, every blade of grass does it every day. What we would need dozens of industries all working in concert to get done, that stubborn dandelion and crabgrass do all day long. Scientists think they know some of the particulars about how plants do this, but it's not something we can simply incorporate into a hydrogen generator just like that.

So there ya go. Again, the score is Mother Nature: one, Mankind: zero.

Well, let's get to the news, hints, tips and info available every week from the UseNet.

From the comp.sys.atari.st NewsGroup  
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'Camel' asks about using an Amiga mouse on an Atari ST:

"I've recently found out (by experimentation) how to use an internal amiga floppy drive with an st/ste (without any mod's), however I remember years ago being told that it is possible to modify an amiga mouse (official cbm or 3rd party) for use with an ST/STE, does this hold true? If so can someone show me how it's done?"

Peter Schneider tells Camel:

"That's true. You have to exchange just two cables, but I'm so sorry I can't tell you which ones."

'Coda' adds:

"A lot of non-serial mice had switches on the bottom that said "AM/ST". My current Falcon mouse does. If I remember correctly its a simple case of changing a couple of wires around. Well simple if you know what you are

doing. I could open up my mouse and see what changes the switch makes, but only if no-one else has a definitive answer."

'Clockmeister' adds his thoughts:

"There is information on changing Atari mice to Amiga mice on Aminet under the hardware/hacks directory from memory. Just do a search and it should turn up. Obviously it's just the reverse procedure."

Greg Goodwin goes a bit farther:

"A search of Google revealed that it apparently the way you convert mice from Amiga to Atari ST mode is to reverse pins 1 and 4 (which are yellow and brown wires on many models). There is some inconsistency on whether switching pins 5 and 9 do any good.

Anyhow, so long as you don't play with pins 7 and 8 (+5V and GND, respectively), you won't harm anything."

Sam F. asks about playing games on an ST running MiNT:

"What games (Atari) can be played on a Falcon with the MintOS installed?"

Janez Valant tells Sam:

"Well basically all. If you have MiNT OS installed you still can boot in TOS or Magic or Geneva or whatever. That's the beauty of Atari OS-es. Different OS-es, different approaches and same applications. Without clumsy virtual machines or emulators and such... So if you don't have one yet, GET yourself some boot manager, i use Xboot, and i'm happy with it. In actual MiNT OS, all GEM games should work nice. U can actually run most games which run from TOS and they work, but very small amount of games actually have Quit option, so its not really useful, so u may boot straight into TOS for them...

You can also play some unix cli or xwindows games, but you have to be fan of those. On X simple logical stuff works okay, but for more complex stuff, machines are to slow... So I wouldn't count on those as some special extras."

Sam F. is back, and he's asking about kicking up the video on a Falcon:

"What can I do to increase the Falcon's video to say, 1024x768 truecolor? I've considered the Eclipse, but I've read that it has some problems with quite a few programs."

Coda tells Sam:

"I think you may want to wait for the supervidel. <http://nature.atari.org>"

Mike Freeman tells Sam and Coda:

"That's of course assuming you get a CT60 first, as it is required to

use a SuperVidel with their current design. Otherwise, I'm afraid Eclipse is the best you'll get on this platform. You could also get a Nemesis or similar over-clocking device and run 1024x768 (or higher) in 256 colors. Not quite truecolor, but not bad, and very compatible (at least mine is...). The problem with that is, the higher-res you go, the slower your machine gets due to bandwidth and CPU usage working with so many pixels."

Sam now asks about the 'bombs' familiar to most ST/TT/Falcon users:

"My Falcon gives me two bombs, white screen, busy bee, and know hdd activity. What does that mean?

It seems to process the auto folder and then locks up as above, I guess I'll just have to re-do the boot partition. I'd still like to know what 2 bombs means."

Jim DeClercq tells Sam:

"Two bombs, and often multiples of two bombs, are doubled buss error. The most common situation is that a program tried to write to location zero, twice. Good luck on your boot partition. It is probably some desk acc or even control panel CPX program that does not like a Falcon."

Sam tells Jim:

"You were right, it was a cpx. Removed that sucker and the Falcon boots just fine now."

Greg Goodwin asks Sam:

"Which CPX?"

Sam tells Greg:

"If I remember....the Falcons' been going bombs crazy....it was the snd-thru cpx."

Sam now asks about sound on the Falcon now:

"How does one get the Falcon's sound to go through the external speakers?"

Mark Bedingfield asks Sam:

"[This is] Not a trick question is it? Just plug into the line out on the back. The speakers do need to be amplified though."

Sam replies:

"No, not a trick question. I've got a pair of Labtech speakers hooked up but no sound. I'll try another pair and see what happens."

"That could be a bad sign. But of what, I'm not sure."

"First place I'd visit would be the Sound CPX, put the sliders to some sensible places."

"Or check what cpx-es are installed. It can be some cpx (snd-thru etc) set sound matrix so no out signal. BTW that matrix is really nice and fine to play with...."

PEOPLE ARE TALKING

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## Consumers Can Snag Game, 'Halo'-Branded Green Console And 'Halo' Jeweled Controller for Just \$169

"This special offer lets video gamers with 'Halo' envy easily and

affordable adopt Xbox," said Bill Nielsen, director of U.S. marketing for Xbox at Microsoft. "We expect collectors, as well as those who have been waiting for the right time to purchase their Xbox system, to jump at this unique opportunity."

Hailed as "absolutely brilliant" by Electronic Gaming Monthly, "Halo" is a futuristic odyssey that challenges players to save humankind from extermination by aliens. Developed exclusively for Xbox by Bungie Studios, part of Microsoft Game Studios, the game has sold more than 4 million copies worldwide and spawned a legion of powerful devotees who participate in competitions, tournaments and game nights. The highly anticipated "Halo 2" will be released in fall 2004 and will change the Xbox experience as gamers currently know it.

### 'Metal Gear Solid' Revives A Sneaky Classic

Nearly two years after the spectacular revamp of "Resident Evil" hit Nintendo's GameCube, the system is seeing yet another remake of a landmark PlayStation game.

"Metal Gear Solid: The Twin Snakes" is an updated version of the 1998 classic that founded the stealth-action genre as we know it. A collaboration between Konami and Silicon Knights (creators of "Eternal Darkness" and "Blood Omen: Legacy of Kain"), "Twin Snakes" brings improved graphics, new cinemas and all the bells and whistles from "Metal Gear Solid 2" to what was already one of the most memorable games of the last decade.

For those who never played it, "Metal Gear Solid" is the story of a grizzled superspy, codenamed Solid Snake, who must infiltrate a remote Alaskan military base and stop a rogue Special Forces unit from using a giant robot to nuke Washington.

What follows is one of the most complex plots ever attempted in a video game, filled with conspiracies, betrayals and lengthy social commentary about war, nuclear weapons, genetics and what it means to be a soldier. The villains are sympathetic, the heroes are deeply flawed and just about everyone has a tragic past, a soon-to-be-tragic future or both.

Starting out with nothing but a pack of cigarettes, Snake must explore the base while hiding from guards, sneaking around and finding a staggering array of weaponry with which to wreak havoc. Players have a convenient radar that clues them in to the enemy's location and line of sight, and the environment offers plenty of places to hide. Snake can flatten himself against walls, peek around corners and crawl under desks to avoid detection. Or he can just hide under a cardboard box and hope nobody notices, which works more often than you might think.

While Snake hides a lot, he's no wimp, and he's more than able to go toe-to-toe with his enemies if he needs to. He can tackle and pummel his foes, if you're the hands-on type, or he can dispatch them with a broad arsenal of pistols, rifles, carbines, grenades and rocket launchers.

Because this is a remake, players now have all the cool advantages from "Metal Gear Solid 2" on their side, most noticeably the first-person mode that makes precision aiming a snap.

This feature also allows Snake to use his new "mug" move, where he surprises unsuspecting guards and then shakes them down for items at gunpoint.

This can be a troubling part for some players. The highly detailed enemy troops will sob and beg for their lives when you aim at them in first-person mode. So more pacifistic types will be glad to hear that Snake has access to tranquilizer weapons this time around, enabling him to knock guards out instead of killing them.

Dead or alive, though, the guards' bodies don't just disappear, and if the other guards see them (or any blood they leave behind) before you can drag them to a hiding place, they'll sound the alarm. So it's a good thing that Snake can stuff his prey into lockers, toss them off ledges or just set them down in some out-of-the-way area.

Like in "MGS2," guards don't just attack when they see you. They'll take a quick potshot, run for cover and radio for help, after which you'll have to deal with an armored "attack team" who'll dog your every step and search possible hiding places until they've found you.

Unfortunately, the designers didn't do as much as they could to accommodate this new efficiency. Most of the environments are still built around avoiding the old, non-upgraded guards, and while Snake can now hide in lockers or dive over railings, he'll often be left with no choice but to run away to a different area if he's spotted.

"Twin Snakes" boasts a ton of new cinematic sequences, all courtesy of Japanese movie director Ryuhei Kitamura. While these introduce an almost embarrassing number of "Matrix"-style camera pans, bullet-time effects and unnecessary acrobatics to the game, they do an excellent job of capturing the characters' personalities, which are a big part of what made "Metal Gear Solid" so memorable in the first place.

Now that the characters actually have detailed faces, they can laugh, cry, sneer and otherwise emote in ways the PlayStation could only hint at, making their appearances all the more involving.

The real standout is still the fight with the skeletal, floating psychic codenamed Psycho Mantis. Mantis uses his "powers" to figure out what other video games you've been playing lately, and to mess with your TV's picture, among other things. This has always been one of the weirdest, most postmodern moments in any video game, and with the help of the "Eternal Darkness" designers, it's creepier and more challenging than ever.

Unfortunately, Snake's new ability to tranquilize his opponents won't save characters you like from dying when they fight him. Even though each boss has two life bars - one for lethal damage and one for non-lethal damage - depleting the latter one has no effect on the plot, as the villains will still die if the script calls for it.

While it has some minor flaws, lacks the original's training missions and is still too short, "Metal Gear Solid: The Twin Snakes" is an addictive, immersive, deeply atmospheric conversion of the best game the PlayStation had to offer.

A must-see for fans of the original and newcomers to the series who want to see where "stealth action" got its start.



Acclaim Entertainment, Inc. Ships 'All-Star Baseball 2005'  
for the PlayStation2 Computer Entertainment System

Award-Winning Video Game Franchise Returns with Online Head-to-Head  
Play, All-New FielderCam, T.W.I.B. Challenge, Analog Batting and More

With the Major League Baseball season underway, gamers can now also take the "virtual field," as Acclaim Entertainment, Inc. announced that it has shipped All-Star Baseball 2005 for the PlayStation2 computer entertainment system. All-Star Baseball 2005 offers an array of new features, including online head-to-head play and downloadable rosters, FielderCam, BroadcastCam, analog-control batting, Spanish play-by-play and the exclusive T.W.I.B. (This Week In Baseball) Challenge.

"We're pleased to have our All-Star Baseball brand return to the PlayStation2 for another season of authentic hardball action," said Marc Metis, Senior Vice President of Brand Management for Acclaim. "Featuring online head-to-head play for the first time, All-Star Baseball 2005 offers the richest gaming experience to date for our consumers."

The media had the following to say about All-Star Baseball 2005:

"Acclaim's famed series is back and better than ever. Franchise mode is by far the deepest of any baseball game out there. The best feature of ASB 05 is the T.W.I.B. Challenge ...I can't say enough how cool this feature is."

- Play Magazine

"This team knows how to play the game." - GamePro

"...All-Star Baseball 2005 will dazzle you with flashes of brilliance." - PSM

All-Star Baseball 2005's features include:

- Exclusive new FielderCam and BroadcastCam offering the most realistic "between the lines" experience available;
- Online head-to-head play and downloadable rosters on both the PlayStation2 computer entertainment system and Xbox Live;
- Analog batting, which lets players hit for average and power with the greatest of ease;
- All-new Franchise mode, including Spring Training, Expansion Mode, Create-A-Team and random season schedules;
- T.W.I.B. Challenge lets players relive or change the outcome of historic moments from the 2003 MLB season, including the infamous NLCS Game 6 Moises Alou "catch" Vs. the Marlins;
- Two-man commentary from Steve Lyons and Tom Brennaman, and Spanish Play-By-Play by Oscar Soria, commentator for the Arizona Diamondbacks;
- Video gameplay tutorial from Steve Lyons;
- Over 80 fully animated stadiums, including current MLB parks, legendary stadiums, Spring Training stadiums and fantasy parks;

- Enhanced Create-A-Player mode, featuring all new textures allowing players to make their own personalized MLB All-Star;
- Over 50 Hall of Fame and MLB legends, including Yogi Berra, Willie McCovey, Nolan Ryan and Reggie Jackson;
- Authentic MLB uniforms, including alternates and more than 60 throwback styles.

All-Star Baseball 2005 is currently available for both the PlayStation2 computer entertainment system and the Xbox video game system from Microsoft, each at a suggested retail price of \$39.99.

### The Suffering

Survival horror games tend to fall into one of two categories: bloody, gore-filled adventures such as the Resident Evil series or terrifying mind trips a la Silent Hill. The Suffering, Midway's latest for PlayStation 2, leans toward the former, with plenty of creepy monsters to gun down, disturbing scenery to endure and other macabre elements to explore. Don't be fooled, however, as this title will still wreak havoc with your mind, just in a very conspicuous and unapologetic manner.

If you can possibly imagine an eerier, more ominous and miserable version of Alcatraz, you still wouldn't be close to picturing the cesspool that's Abbot State Penitentiary on Carnate Island. Living conditions in this particular facility are abysmal, even by prison standards, and the bloody history of the island itself seems to have a profound impact on inmates and correctional officers alike. The homicide and suicide rates are astonishingly high among the population, employee retention is low and to top it all off, the weather is consistently dreadful.

Convicted of killing his wife and two children, Torque is one of the men sentenced to die on Carnate Island. He claims to have no memory of the event, as he's prone to periodic blackouts, one of which supposedly occurred at the time of the murder. Regardless, while waiting on death row for his sentence to be carried out, a bizarre incident eliminates the bulk of the prison's staff and inmates, allowing Torque to escape. Though he's been spared the lethal injection table, his life is no more secure outside the confines of his cell. You must take control of this disturbed man and battle your way through hordes of enemies while attempting to discern what happened the night of your family's murder.

Initially, you'll have nothing but a shiv to fend off the hordes of mutilated creatures, but your arsenal will eventually grow to include firearms such as a revolver, machine gun and shotgun. Each one has its strengths and weaknesses; while the Tommy Gun may possess an extremely rapid rate of fire, it lacks the accuracy of the revolver and power of the shotgun. There are also special bonus weapons, including a flamethrower that must be assembled from parts collected throughout the game. This is a challenging quest, but the payoff makes the task worthwhile.

Furthermore, thrown devices such as TNT, flashbangs and shrapnel grenades can be used to distract, incapacitate or kill small numbers of enemies, or even to blow up other volatile materials and solve certain puzzles. Flares also fall into this category, and though they can't be employed as

weapons, they're good for illuminating areas should your flashlight battery run out.

Rage mode is another interesting feature, and one that will certainly bail you out of many tight situations. A gauge in the lower left corner of the screen represents your current level of insanity, and as you kill enemies, it gradually fills. Once the meter glows orange, you can tap the triangle button to transform yourself into a tremendously powerful beast. You have two attacks in this state; the first is a basic (albeit mighty) fist pound while the second is a special ability that tends to deal greater damage to the surrounding area. This skill grows and changes as you eliminate monsters in rage mode, increasing in strength as you use it more and more. Keep in mind, however, that your insanity meter is steadily drained while in this transformed state, and if you don't morph back before it reaches zero, your health will start to be consumed as well.

Interestingly, the game can be played from both third- and first-person perspectives; a simple button press is all that's required to make the switch. The over-the-shoulder look is always preferable when exploring and searching for items or clues, but as other survival horror aficionados can attest to, this camera angle has a habit of causing problems during combat. Shifting to a first-person view helps alleviate potential troubles caused by the camera during those hectic, close quarters battles.

#### Atari Launches Atari On Demand Service

Atari, Inc., a leader in interactive entertainment, announced the launch of the Company's first online software service that delivers its back-catalog titles over the Internet to Atari fans worldwide. The service will distribute the software to personal computers in pure digital form, bypassing the need to install from a disk. Unlimited access to Atari's growing e-catalog of games, productivity software, and kids' software is available at <http://www.atariondemand.com> for a monthly fee of \$14.95. The "Atari On Demand" service uses the EXEtender Turnkey technology solution from Exent Technologies Inc., which powers leading online game services in North America, Europe and Asia.

"Atari is delighted to work with Exent in offering this exciting new category of digital entertainment," said Wim Stocks, Atari's Executive Vice President of Sales and Marketing. "Atari on Demand is the next logical step in building on the unprecedented successes we've had in digital distribution. The service creates a market-expanding channel that is great for Atari, its partners, and for Atari fans."

The "Atari On Demand" subscription service, powered and operated by Exent, opens up Internet access to a large and growing selection of Atari's back catalog, offering value packages for the Atari gaming enthusiast and casual user alike. With a broadband connection, Microsoft Windows operating system, and an international credit card (Visa, Mastercard, American Express and Discover), customers can join the service from any place on the globe. The Atari software is delivered using Exent's innovative streaming technology, which ensures that bandwidth utilization is kept to a minimum and that the customer's computer can handle application-specific requirements prior to delivering the software.

"Exent is proud to be Atari's partner in pursuing this high-margin growth opportunity for on-line, on-demand gaming and software services", said Zvi

Levgoren, Exent's CEO. "Both consumers and publishers stand to benefit from the tremendous value that digital distribution brings - our technology and solutions serve to strengthen and energize the relationship between consumer and publisher."

## Online Consoles Soar While PCs Stumble

Only a few years ago, online games still lurked on the fringe of American culture.

One category catered to young males interested in wreaking havoc - at others' expense. And then there were the complex, virtual communities that more closely mirror the real world in their social interactions.

Today, those never-ending online "massively multiplayer" games like "EverQuest" have matured into mainstream, vibrant attractions, drawing hundreds of thousands of paying customers - male and female.

But their growth appears almost stagnant compared to the popularity spike for multiplayer online shoot'em-ups and other mostly war-themed fare geared toward users of console systems, led by Sony Corp.'s Playstation2 and Microsoft Corp.'s Xbox.

Already this year, two "persistent" fantasy world online computer games have been scrapped, one before it even made it to store shelves.

Broadband Internet access, meanwhile, has helped bring connectivity to consoles that wasn't even an option two years ago. Now, 750,000 players use Xbox Live, each paying \$50 a year to be able to play against people elsewhere and download updates.

Sony says it has sold 2.4 million of its \$40 network adapters that enable Playstation online gaming, through broadband or a dial-up connection.

By 2008, 40.2 million gamers worldwide will be going online with video game consoles, says market research firm DFC Intelligence.

"There's no denying that this is the next level of game play," NPD analyst Richard Ow said. "The console business is all about multiplayer."

Nearly 50 games with some sort of online feature have been released for the Playstation2 in the past year, and twice that number are planned by year's end. Microsoft expects about 100 games using Xbox Live in stores by May.

"It sort of has become an expected feature," said Seth Luisi, senior producer of the military shoot-'em-up game "SOCOM II: U.S. Navy SEALs" for the Playstation2. Of the 920,000 copies sold, about half are being played online, Luisi said.

Troubles in the land of persistent online worlds, meanwhile, surfaced in February, when the multiplayer feature of the adventure game "URU: Ages Beyond Myst" was canceled.

Before its December launch, creator Rand Miller speculated that at least 100,000 subscribers - each paying between \$10 to \$15 a month - would be the sustenance required for "URU Live" to succeed. The number of initial subscribers was never released.

Weeks later, Microsoft canned a Norse mythology online game in development called "Mythica" after what the company described as a "careful evaluation of the MMORPG (massively multiplayer online role-playing game) landscape."

Despite a \$300 million investment, "The Sims Online" from Electronic Arts Inc. only has about 80,000 subscribers more than a year after its release, far short of the company's stated goal of 1 million.

The bar is higher for persistent games because they require a deeper time investment than console games, said Sony Online Entertainment spokesman Chris Kramer. The company debuted the medieval fantasy game "EverQuest" five years ago.

"You can't jump into the massively multiplayer space the same way that you can into a regular single-player game," Kramer said. "You have a game where the strength of the game is relying on people to come back to it. No one is going to want to give you \$13 a month for 'just OK.'"

Massively multiplayer games have no such problems in countries such as South Korea, where a high percentage of homes have broadband Internet connections and millions of gamers play online. Korean-based "Ragnarok Online," for example, boasts 17 million users worldwide in a game where players can battle, chat or obtain pets.

In the United States, PC games like the futuristic battle game "Unreal Tournament 2004" are quite popular with people who want to blast each other online. But those games are free to play.

By comparison, most MMORPGS charge monthly fees in addition to upfront hardware and software costs. Alan Cates, a 55-year-old Internet marketing consultant and gamer from California thinks online PC games are better if they appeal to both hardcore and casual players.

"It seems to be a problem for the game designer. What do they do with those that spend 100 hours a week playing the game and those that spend four hours a month?" Cates said.

For the genre to really reach the masses, online games need to broaden their appeal beyond males between 15 and 25, said Sheri Graner Ray, a game designer with Sony Online.

"The market is not growing as fast as the game industry. It means we've got to expand our market to attract more women," she said this month at the South by Southwest interactive festival. "It's not about making games with fluffy pink kitties. It's about understanding what barriers are out there preventing females from accessing games today."

At the electronic hangout "There," users pay \$5 a month to chat, buy and sell virtual items and drive dune buggies. It has gained tens of thousands of players since it launched in October. Its creator, There Inc., won't say how many subscribers There has but notes that nearly half the users are women and 55 percent are over age 25.

At Electronic Arts, spokeswoman Susan Lusty said the market for massively multiplayer online role-playing games is still in the early stages.

"It's a matter of figuring out the perfect blend of financials and game play that will really propel this style of game play forward," she said.

Most big multiplayer games in the works don't appear to be moving very far from the young male demographic.

Blizzard Entertainment, part of Vivendi Universal SA, plans to launch a persistent online game called "World of Warcraft" this year. South Korean-based NCsoft Corp., meanwhile, is putting the final touches on "Lineage II" - a sequel to "Lineage: The Blood Pledge," one of the most popular online games ever.

The swords and sorcery of "EverQuest" return too, with "EverQuest II" due in the fall.

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->A-ONE Gaming Online      -      Online Users Growl & Purr!
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## Surgeons Who Play Video Games Err Less

All those years on the couch playing Nintendo and PlayStation appear to be paying off for surgeons. Researchers found that doctors who spent at least three hours a week playing video games made about 37 percent fewer mistakes in laparoscopic surgery and performed the task 27 percent faster than their counterparts who did not play video games.

"I use the same hand-eye coordination to play video games as I use for surgery," said Dr. James "Butch" Rosser, 49, who demonstrated the results of his study Tuesday at Beth Israel Medical Center.

Laparoscopic surgery - using a tiny camera and instruments controlled by joysticks outside the body - is performed on just about any part of the body, from an appendix to the colon and gall bladder.

The minimally intrusive surgery involves making tiny keyhole incisions, inserting a mini-video camera that sends images to an external video screen, with the surgical tools remote-controlled by the surgeon watching the screen. Surgeons can now practice their techniques through video simulations.

Rosser said the skill needed for laparoscopic surgery is "like tying your shoelaces with 3-foot-long chopsticks."

"Yes, here we go!" said Rosser, sitting in front of a Super Monkey Ball game, which shoots a ball into a confined goal. "This is a nice, wholesome game. No blood and guts. But I need the same kind of skill to go into a body and sew two pieces of intestine together."

The study on whether good video game skills translate into surgical prowess was done by researchers with Beth Israel and the National Institute on Media and the Family at Iowa State University. It was based on testing 33 fellow doctors - 12 attending physicians and 21 medical school residents who participated from May to August 2003.

Each doctor completed three video game tasks that tested such factors as motor skills, reaction time and hand-eye coordination.

The study "landmarks the arrival of Generation X into medicine," said the study's co-author, Dr. Paul J. Lynch, a Beth Israel anesthesiologist who has studied the effects of video games for years.

Kurt Squire, a University of Wisconsin researcher of video game effects on learning, said that "with a video game, you can definitely develop timing and a sense of touch, as well as a very intuitive feel for manipulating devices."

Squire, who was not involved in Rosser's project, said applying such games to surgery training "could play a key role in preparing medical health professionals."

Beth Israel is now experimenting with applying the findings.

Rosser has developed a course called Top Gun, in which surgical trainees warm up their coordination, agility and accuracy with a video game before entering the operating room.

"It's like a good football player," Rosser said, "you have to warm up first."

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A-ONE's Headline News  
The Latest in Computer Technology News  
Compiled by: Dana P. Jacobson

#### Watchdogs Slam Google's New E-Mail Service

Google Inc. hails its new e-mail service as a breakthrough in online communication, but consumer watchdogs are attacking it as a creepy invasion of privacy that threatens to set a troubling precedent.

Although Google's free "Gmail" service isn't even available yet, critics already are pressuring the popular search engine maker to drop its plans to electronically scan e-mail content so it can distribute relevant ads alongside incoming messages.

Privacy activists worry that Gmail will comb through e-mail more intensively than the filters widely used to weed out potential viruses and spam.

Gmail opponents also want Google to revise a policy that entitles the company to retain copies of people's incoming and outgoing e-mail even after they close their accounts.

The e-mail scanning, which Google says will be handled exclusively by computers, has raised the most alarms, partly because it seeks to capitalize on messages sent by people without Gmail accounts.

Google intends to deliver ads by analyzing what's being discussed. For instance, an e-mail from one friend to another talking about an upcoming trip might include links to hotels or airlines.

Gmail has a "definite creepiness factor," said Ari Schwartz, associate director of the Center for Democracy and Technology.

Mountain View, Calif.-based Google portrays the commercialization of e-mail as a small trade-off for a service that will give each user one gigabyte of storage - up to 500 times more than other leading free services - and provide a quicker, cleaner way to search e-mailboxes. Most e-mail messages opened on Gmail won't even contain ads, according to Google.

Nevertheless, critics say the free storage - roughly the equivalent of 500,000 pages - isn't worth compromising individual privacy rights.

"Consumers really need to look this gift horse in the mouth because it has rotten teeth and bad breath," said Beth Givens, director of the Privacy Rights Clearinghouse, a watchdog group.

The Gmail backlash has inspired Orwellian comparisons likening Google to Big Brother, a disturbing development for a privately held company committed to making money "without doing evil."

"We are not going over to the dark side," said Wayne Rosing, Google's vice president of engineering. "Consumers can expect us to treat their e-mail as private and with a great deal of respect. I don't think we are doing anything unreasonable."

Gmail apparently doesn't bother everyone. Without providing specifics, Rosing said "hundreds of thousands" of people have registered with Gmail.com since Google announced the service last week. The company is still testing Gmail before offering it to the general public later this year.

The enthusiastic response to Gmail probably is being driven by the chance to get so much e-mail storage space for free, said Chris Hoofnagle, associate director for the Electronic Privacy Information Center.

Hoofnagle estimates Google will pay about \$10 annually for each gigabyte of storage the company gives away, a small price to build an audience likely to be prized by advertisers.

"It's not a great deal. Individuals would be throwing away the protections of their communications for a few dollars," Hoofnagle said. "We don't see this as any different than letting a company listen in on your phone conversations and letting the Postal Service open your mail."

Some parts of Gmail even could be illegal, said Simon Davies, director of Privacy International, a watchdog group in London.

Google's current Gmail policy advises potential users that "residual copies of e-mail may remain on our systems, even after you have deleted them from your mailbox or after the termination of your account."

Vast data collection like that appears to be a blatant violation of communication protections in United Kingdom and possibly elsewhere in Europe, Davies said. Privacy International already has filed a complaint against Gmail with United Kingdom regulators.



"If millions of people have their communication history kept on Google computers," Davies said, "then that storehouse becomes a very valuable source of information for a range of unintended consequences."

The watchdogs also worry that Gmail could give Google a way to individually identify the people using its search engine, placing a name with the material being sought.

Google already tracks most searches conducted at its site by tagging users' Web browsers with a chunk of data known as a "cookie." Google users are able to remove or block the cookie, although few do.

Rosing said there will be an information firewall separating Google's search engine from Gmail.

"We don't use the data collected on one service," he said, "to enhance another."

#### Dot-Mail Domain Proposed as Spam Solution

The next weapon in the war against junk e-mail could be built into the core of the Internet's inner workings if a group of anti-spam vigilantes gets its way.

The weapon in question is called "dot-mail," a proposed new Internet domain like dot-com or dot-org. If approved by the Internet's addressing authority, direct mailers and other companies could use it to send their e-mails straight to users' in-boxes without fear that they will be quarantined or discarded by software filters that confuse those e-mails with spam.

"What we're trying to create is a zone on the Internet where mail flows - where the airlines and Amazons and eBays can send mail and it will arrive cleanly," said John Reid, a spokesman for Spamhaus, a Britain-based nonprofit company trying to reduce the amount of spam online.

A dot-mail domain is a kind of "white list," techie parlance for a compilation of Internet addresses that ISPs and system administrators know is trustworthy. Companies with dot-mail addresses would have to ask e-mail recipients not only for their permission to send them material, but also a confirmation generated by the recipient.

It is the opposite approach of "blacklists," which ISPs use to automatically reject e-mails that come from Internet domains known for generating spam. Spamhaus maintains one of the most widely used blacklists.

Blacklists are popular but have the unintended effect of trapping legitimate e-mail messages. Not only that, people whose domains wind up on blacklists often have a hard time getting off them again because some blacklist operators keep their contact information hidden. Others often are reticent to remove names from their lists.

But dot-mail is facing several hurdles that stand between it and reality. One of the steepest is price. Compared to the \$6 wholesale rate for a dot-com address, the \$2,000 wholesale asking price is a steep one. Reid said the hefty annual fee would pay for Spamhaus to review all dot-mail

applicants to insure that they are not spammers.

"It's not going to be spam if it's coming from dot-mail, so the problems drop away very quickly," he said.

More uncertain is whether the Internet Corporation for Assigned Names and Numbers (ICANN) - the nonprofit group that supervises the online addressing system - will approve dot-mail's creation. ICANN is considering the dot-mail bid, along with proposals to create domains such as dot-tel, dot-travel and dot-xxx.

Spokesman Kieran Baker said ICANN will approve at least some of the domains later this year, but declined to comment on the status of individual bids.

Under the Spamhaus proposal, dot-mail applicants only can buy addresses that correspond to Web sites that they already own. For instance, the owners of washingtonpost.com would be eligible to buy washingtonpost.com.mail.

Registrants would not be allowed to put Web sites at the dot-mail addresses nor would they be able to send mail directly from them. Rather, the domain would exist as a cross-referencing device for e-mail administrators looking to verify the validity of messages. Messages coming from a dot-mail customer could be marked and checked against Spamhaus's database.

Ray Everett-Church, counsel for the Coalition Against Unsolicited Commercial Email (CAUCE), said he supports the idea. "I think that people are certainly warming to it," he said.

White lists are appealing because they identify messages coming from "legitimate" e-mail marketers, which keeps system administrators from running those messages through spam filters, said Direct Marketing Association spokesman Louis Mastria. Those filters snare 15 percent to 27 percent of messages sent by DMA members.

Mastria said, however, that DMA members would be leery of trusting Spamhaus to vouch for their online reputations because the Spamhaus blacklist has thwarted many of their legitimate communications.

He said he worries that a dot-mail domain might result in the same problem. "There doesn't seem to be any process built in for how to get yourself one of these dot-mail names if they don't choose to give it to you."

The dot-mail plan could scare away some of the people who need it most, said Steve Atkins, head of Word to the Wise, a Palo Alto, Calif.-based consulting business that helps customers prevent their mass e-mailings from being trapped in spam filters by cleaning up their mailing practices.

"The people who can meet those standards are the ones who aren't having that much trouble delivering the mail anyway. Squeaky clean e-mailers who send lots of mail don't see lots of problems with blacklisting," Atkins said.

If dot-mail is approved, it could face more than a doubtful reception from direct marketers. Many ISPs and e-mail providers like America Online, Yahoo and Earthlink run their own white lists, and there are a number of companies pitching their own products.

Palo Alto, Calif.-based Habeas Inc. uses digital watermarking technology - accepted by Time Warner's Road Runner high-speed Internet service and SBC

Communications among others - that it licenses to companies such as E-Loan, BizRate and Harris Interactive.

Eric Allman, the chief technology officer for Sendmail Inc., and the author of one of the world's most widely used e-mail programs, said dot-mail could have a fighting chance if it quickly built a broad user base to make it worthwhile for system administrators to greenlight mail coming from the domain, Allman said.

"Getting over that initial hump is the hard part," Allman said.

Al DiGuido, chief executive of bulk e-mailer Bigfoot Interactive (whose clients include washingtonpost.com), said dot-mail would work only if big ISPs and other well established companies accept it.

"This idea is stillborn until that happens," he said. "Unless Yahoo, MSN or AOL gets behind them, it's going to be a real uphill battle."

EBay, one of the companies Spamhaus targets as a potential dot-mail customer, is cool to the idea.

"While we're not shutting the door to it, it's not our focus," said spokesman Hani Durzy. "I think it's still an open question about how easy it would be to abuse this."

Earthlink, the nation's second-largest ISP, would require more time to study the proposal before buying into it, said Director of Product Development Stephen Currie.

The nation's biggest provider, AOL, handles most of its spam defense in-house and would be uncomfortable about trusting a third party, said spokesman Nicholas Graham.

"That's not something we have done, that's not something we currently do, and I think we'd be very, very apprehensive about doing it in the future," Graham said.

#### New Software Seeking State Tax Scofflaws

Tax scofflaws, beware! A pack of digital bloodhounds may be on your trail. State revenue agencies across the nation are hunting for tax evaders with new high-tech tools: computer programs that mine an increasing number of databases for clues on the finances of people and businesses.

If your name is flagged, expect a letter or a call.

"It's the new trend. It's where everybody is headed," said Verenda Smith, government affairs associate at the Federation of Tax Administrators, which represents state tax agencies. "The greatest value of these systems is in finding patterns that the human eye isn't that good at seeing."

In Massachusetts, for example, the state tax agency can scan a U.S. Customs and Border Protection database of people who paid duties on big-ticket items entering the country, so anyone who fails to pay the state the required 5 percent "use tax" gets flagged.

The state has also tried comparing motor vehicle registration data with tax

returns, looking for people who might be driving Rolls Royces or Jaguars but declaring only a small income, Revenue Commissioner Alan LeBovidge said.

"They're able to drill or mine increasingly large amounts of information from various sources. Activities that would have previously taken them years of work can now be done within seconds," said Amar Gupta, co-director of the Productivity From Information Technology research center at MIT's Sloan School of Management. "The dynamics have changed."

The new tools have reaped hundreds of millions of dollars in increased tax collections, officials say. But the government's growing sophistication at collecting and scrutinizing data about taxpayers is sounding alarms among privacy advocates.

The Federation of Tax Administrators doesn't keep a definitive list of states using the technology, but Massachusetts, Texas, California, Washington, Virginia, Iowa and Florida are known to be leaders in the trend, which began in the late 1990s. The IRS is also using the techniques.

Revenue agency officials say the systems make them more efficient, with audits tending to yield more. They also say innocent people who shouldn't be audited at all are less likely to be bothered.

The tax agencies' "data warehouses" can stockpile data from state and federal agencies and, in some cases, private sources. And they are using new tools to analyze the data, including "data-mining" software that can scrutinize mountains of information to find patterns or establish relationships.

Tax officials say many of the databases they use have been available to them for years ? but it has never been so easy to integrate and analyze them.

That ease with which government can now measure up our lives troubles Chris Hoofnagle, associate director at the Electronic Privacy Information Center, a Washington-based privacy group.

He worries that the growing database culture in the United States "can empower the state over individuals or increase the power of the state."

"It can be used maliciously," said Hoofnagle.

Government data-mining sparked controversy last year, forcing a shutdown of the Pentagon's Total Information Awareness project to plumb public and private records for clues about terrorism. More recently, privacy concerns led several states to drop out of the Matrix crime database system.

The digital dossier-building among tax agencies doesn't just pinpoint which taxpayers should be audited. The analyzing systems can automatically generate letters to taxpayers and help locate people who have changed their addresses.

The Massachusetts system mixes databases from the IRS and Customs, along with state motor vehicle, incorporation and professional licensing records. The state tax agency says it uses other databases, but won't name them.

Officials in Massachusetts and several other states said, however, that their agencies did not buy information from the sometimes-controversial vendors that aggregate and sell vast amounts of personal data about

individuals.

For its part, the IRS "has contracted with several companies that assist the agency with data mining, primarily the agency's own data, and to build case models to identify non-compliant taxpayers," said agency spokeswoman Nancy Mathis.

The Massachusetts agency has brought in \$47 million thanks to the system since its June 2002 inception, LeBovidge said. California officials estimate that for the four years ending in fiscal 2003, their new system brought in \$260.6 million ? while Texas says its data-mining tech has harvested more than \$362 million since the late 1990s.

As an example of a successful case, Massachusetts officials said IRS records led them to a man who worked in the state but had not bothered to file state income taxes. He had to cough up \$33,000.

LeBovidge says it's unfair to call database-mining Orwellian.

"We're asking people to pay their taxes that are legitimately due," he said. "And if we don't have people pay the taxes that are due, then we have to ask the people that are stepping forward to pay more. And that's not fair."

LeBovidge now unabashedly dreams of a day when people won't even have to fill out their income tax forms: The government will have so much information about people's finances that it can simply fill out tax forms and mail them to taxpayers to be endorsed.

California has taken a step in that direction, mailing 23,000 pre-filled-out forms to taxpayers who have simpler types of returns, a small fraction of the state's 15 million business and private returns, said Denise Azimi, spokeswoman for the California Franchise Tax Board,

She said an upgrade to California's "non-filer" system that began in the late 1990s offered the state an increased data warehousing and analysis capability. The system brings together multiple databases, including records from the IRS, state agencies, banks and brokerage houses to try to identify tax cheats.

In its data-mining for tax cheats, Texas uses a pattern-recognition technology similar to what credit card companies use to flag unusual charges.

Looking at a restaurant, for example, the system can examine the cigarette, alcohol and sales taxes collected and compare the numbers to what would be expected of a typical restaurant, flagging numbers that seem out of whack, said Billy Hamilton, Texas deputy comptroller. Texas also scans Federal Aviation Administration records for people who have bought planes and failed to pay a sales or use tax.

For privacy advocates, such methods can violate a fundamental privacy principle: data collected for one purpose shouldn't be used for another without a person's permission.

James Dempsey, executive director of the Center for Democracy and Technology says he wouldn't go so far as to call for eliminating data-mining for tax cheats.

But they should be "subject to checks and balances," he said, with those

targeted given a chance to dispute a state's findings.

"Are people innocent until proven guilty," he said, "or are they guilty by computer match until proven innocent?"

### Europe's War on E-Mail Spam Claims First Scalps

E-mail spammers take heed: Europeans are finally winning legal tussles against digital peddlers of get-rich-quick schemes, sexual aids and pornography.

Some of the world's biggest e-mail providers, including Microsoft Corp and Time Warner's AOL Internet unit have begun to build cases against spammers from a mountain of consumer complaints - and scoring legal victories.

In December, a German court ordered three companies to stop sending pornographic e-mails to Microsoft's Hotmail users. And a French court recently issued a cease and desist order on a man who admitted sending 150,000 e-mail offers for an "electric-pliant scooter" to AOL and Hotmail users.

The trickle of successful prosecutions isn't likely to end the flow of unsolicited e-mails any time soon, spam fighters point out, but it does offer consumers some hope that justice is at hand.

"Spam is very high on the agenda of most governments. It is a difficult matter to tackle, but we are seeing some progress on this front," said Beatrice Belmas, director of legal and corporate affairs for Microsoft in Europe.

In the United States, where the legal crackdown started years earlier, dozens of courts across the country have fined spammers and ordered them to cease their activities.

Now, more cases are pending across Europe including in Denmark and Sweden, Microsoft and AOL say.

The legal clampdown is occurring at a point when the daily flow of spam has surpassed legitimate e-mail.

And, police suspect, organized crime gangs are using spamming tactics to defraud online banking customers out of their passwords and banking details or spread computer viruses capable of taking over people's PCs. "What needs to be done is to fight spam on all fronts, including bringing the big spammers to justice, and Europe is willing to cooperate," said Eric Walter, who heads anti-spam efforts for the French Prime Ministry.

France's consumer protection council CNIL has begun working with U.S. government agencies, including the Federal Trade Commission, to track down the biggest international spammers.

Many believe international cooperation, and perhaps multi-national treaties, will be needed to stop the global spam flow.

But before prosecutors can expect the big international collar, there are still legal snags in Europe. Last week, the European Commission threatened to take eight member nations, including Belgium, France and Germany, to the

European Court of Justice for failing to implement the EU privacy directive - a broad law that criminalizes the distribution of e-mail to users without their permission.

Spam fighters would like to see new laws include hefty fines and jail time for repeat offenders.

"The problem with fines is that you are dealing with fraudsters. They have no intention of paying," said Steve Linford, founder of British-based spam-fighting group The Spamhaus Project.

Another obstacle is the courts themselves. Spam cases are new territory for judges and prosecutors.

"We have gone to court only to find that judges have never used the Internet before. It's an education we do on the spot. But they are really very interested," said Microsoft's Belmas.

Still, the world's biggest e-mail providers continue to invest heavily in an anti-spam effort that includes both new technological remedies and lawsuits.

"We cannot wait. Our goal is to do as much as necessary to significantly reduce the pain," she added.

#### Iowa Colleges Take on Computer Viruses

Iowa colleges hit hard by computer viruses, spam and spyware are fighting back.

Last fall, the viruses swarmed the state's three public universities, infecting thousands of computers and threatening to shut down networks, leaving students and faculty without access to the Internet for weeks.

This fall, the University of Northern Iowa will require students who live in residence halls to have their computers scanned for viruses before connecting to the UNI network. Iowa State University and the University of Iowa are considering the same strategy, and all three schools have bought or plan to buy software to protect them.

Iowa university officials say it's hard to quantify how much has been spent on viruses this academic year. The cost, however, keeps rising. Not only do universities have to pay employees to fix infected computers, but other projects fall by the wayside when a virus hits. Students suffer because they can't access assignments on the Internet or communicate with teachers and friends.

"I can't open up half my stuff half the time," said Jeremy Evans, a University of Iowa industrial engineering student from Des Moines.

The Blaster virus - named for a file named MSBlast.exe that it created on infected computers - contaminated about three-fourths of the 4,000 computers in UNI's dorms in August, university spokesman Todd Thomas said.

"It really was a nightmare for quite a while," he said. "I put in about 100 hours a week for two weeks."

Iowa State paid \$10,000 last fall for student employees to remove the Blaster virus from thousands of computers and upgrade virus software.

The University of Iowa weathered the Blaster virus with few problems only to be hit in late August with the Welchia worm, which could have shut down the university's network if technicians hadn't acted quickly, said Jane Drews, the school's information technology security officer.

"There were six to eight people taken off their normal jobs for a period of weeks, and my staff didn't do anything else for a month," she said.

Blaster and other viruses have forced Iowa's universities to find new ways to fight back.

"We're looking at what we might do differently next fall," said Mike Bowman, assistant director for information technology security at ISU.

Iowa State already makes antivirus software available for free to students, faculty and staff, but Bowman said they may distribute CDs with the software to students when they return in August.

Other schools have also taken steps to fight back.

Buena Vista University in Storm Lake has avoided many viruses because each of its 1,700 computers - the university gives each student a laptop computer - has antivirus software that is updated regularly, said Ken Clipperton, managing director of University Information Services.

The school also requires students to download Windows updates so the network will be protected from worms, viruses that spread by looking for similar computers.

#### Intego Issues Mac OS X Trojan Horse Warning

Macintosh security specialists, Intego on Thursday issued a security warning to its customers for the first Trojan horse to affect Mac OS X. Dubbed MP3Concept (MP3Virus.Gen), the Trojan horse exploits a weakness in Mac OS X where applications can appear to be other types of files, according to the company.

Intego told MacCentral today that the code is hidden in the ID3 tag of the MP3 file. The code will only activate when clicked, but once it is, Intego warns the Trojan horse has the potential to delete all of a user's personal files; send an e-mail message containing a copy of itself to other users; and infect other MP3, JPEG, GIF or QuickTime files.

Intego also said that the same technique could be used to infect .jpg or .gif files, although no such cases have been found. Intego has released updated virus definitions to combat the Trojan horse.

At the time this story was posted, Symantec Corp. had no information on its Web site about the Trojan horse.



When the Beagle virus popped up last month and threatened to infect millions of computers, the folks at Symantec took the problem straight to Sara.

Sara is the linchpin of Symantec's virus-hunting operation, one of the largest labs of its kind and the engine behind the best-selling virus-fighting software, Norton AntiVirus. She is so important that she has a glass office in the middle of the building and is the constant center of attention.

But Sara is no person. She - or it - is a computer.

The affectionate name for Symantec AntiVirus Research Automation, Sara represents the front line in the world's fight against computer viruses. The computer automatically screens thousands of files flying around the Internet that are suspected of containing new virus strains.

With no human help, Sara disinfects tainted files and sends out digital cures to millions of computers before an epidemic has a chance to set in. Sara even e-mails instructions to users on how to disinfect their computers, written in any of 17 languages.

Sara could very well be the only thing guarding computer users' spreadsheets and Word files from the peering eyes and ill wishes of computer geeks around the world who want to destroy them.

Sara's role is becoming even more important now that new viruses crop up every week and are dangerous and sophisticated enough to bring Corporate America to a halt.

Last year, the number of virus disasters, attacks that affect 25 or more computers at the same time or cause large monetary losses, jumped 15%, and the number of viruses that attempted to attack companies more than doubled, according to ICSA, a unit of virus researcher TruSecure. Last year, the vicious viruses Blaster, Welchia and Sobig.F or their cousins infected millions of computers in just 12 days, costing \$2 billion in lost productivity and data, Symantec says.

The dangers are escalating as virus writers dabble in all sorts of digital chaos, such as new forms of viruses, worms, spyware and "phishing," which can steal credit card, bank account and other important data.

Already there have been 16 virus outbreaks this year dangerous enough to get Symantec's code-red "Level 3" or "Level 4" risk measure. There were only 17 such outbreaks during all of last year.

Sara is Symantec's answer to the growing threat. First built in 1995 and improved regularly over the years, Sara has turned into one of the major threats to spoil a virus writer's plans.

For instance, in September, Sara first detected a new virus called Swen. Swen was especially menacing because if left unchecked, it could even dismantle AntiVirus software installed on a PC. But Sara sniffed out Swen early, concocted an antidote and transmitted it to all 150 million of Symantec's customers - effectively snuffing out Swen.

That kind of success is why Motoaki Yamamura is sleeping much better lately. When the senior development manager first joined Symantec nearly a decade ago, he would be awakened by phone calls in the middle of the night

when there was a virus outbreak on the other side of the world. He'd then jump out of bed and drive to the Symantec offices, meet with other sleepy virus hunters and create an antidote. Those days are largely over. "I get to sleep more peacefully now," he says.

But as hardworking and effective as Sara is, there are still some viruses that are clever enough to elude even her. When that happens, Symantec calls in dozens of computer experts in its main virus center in Santa Monica as well as satellite sites in Tokyo, Sydney and Dublin.

Sara is able to deal with 95% of the 200,000 suspected viruses a month. But that leaves 10,000 of the most dangerous variants for the human virus-busters to take care of, says David Loomstein, Symantec group product manager.

Loomstein can still remember his shock when the MyDoom virus hit. About 175 companies and individuals an hour were sending notes to Symantec saying they'd been infected. It was "the biggest virus we've ever seen," he says. "People were coming out of the woodwork." Sara wasn't able to handle it, because it was so different than any virus ever seen.

In cases like that, the Symantec virus gurus tear apart the infected file to see how the virus works. Once alerted to the problem, they can usually design a fix in 15 minutes or less.

What concerns both Yamamura and Loomstein most is the proliferation of new threats. To date, many computer users figure that if they don't open attachments on their e-mail, they're safe. But new virus techniques can infect a computer even if the user doesn't open the attachment.

Then there's the newest threat: "phishing" Web sites, which steal personal information by posing as official bank or credit card sites and getting users to enter their account information.

Because phishing messages aren't viruses per se, but really cybertricks, Sara can't catch or prevent them. That's why no matter how smart Sara gets, it takes the human virus catchers at Symantec to keep outsmarting the miscreants.

"We're always trying to research what's next," Yamamura says. "We're trying to be one step ahead."

#### AOL Offering Non-Subscribers Some Content

A behind-the-scenes technical change at America Online will allow the company to offer some of its content to non-subscribers in an attempt to broaden AOL's audience beyond its members-only "walled garden."

By letting any Web surfer access music, news or other material that was previously available only to members, AOL could attract more advertising revenue and promote its sagging subscription service.

In one early experiment, a concert by the R&B artist Usher aired for free on the public AOL.com Web site last weekend after originally being available only to AOL's broadband members.

But AOL has to be careful not to give too much material away for free and

dilute the value of its memberships, which cost \$24 a month for dial-up subscribers and \$15 for people who get broadband access from a separate provider.

AOL is tinkering with its formula because subscriber numbers continue to drop - 24.3 million members in 2003, down by 2.2 million from the previous year - and the Internet ad market is drastically better than it was a few years ago. That has helped rival Yahoo! Inc. make a stunning comeback.

AOL's revenue dropped 5 percent in 2003 to \$8.6 billion, though the unit generated \$663 million in operating income for Time Warner Inc.

David Card, an analyst at Jupiter Research, says AOL might sell individual services such as online bill-payment to Web surfers "outside the wall" in addition to trying to expand the audience for its music and news channels.

In fact, Card expects the public AOL.com site to become more of a customizable "portal" like Yahoo or Microsoft Corp.'s MSN.

These changes are possible because AOL is moving away from its proprietary programming language, known as "Rainman," that serves up content on AOL's internal channels. (AOL's popular instant-messaging program is an exception; it is available to anyone.)

The company is instead increasing its use of HTML, or hypertext markup language, the standard that makes Web content viewable in any browser, regardless of operating system.

Doing so will let AOL offer material outside the walled garden, on computers that don't have AOL's client software installed. It also will let AOL support more of the advertising formats used on the Web.

"It provides us strategic and technical flexibility," said Jim Bankoff, AOL's executive vice president for programming.

#### Internet Congress Convenes

The politically minded group of people meeting recently near Washington, D.C. weren't wearing enough navy suits and power ties to be confused with Congress, but they expressed much deeper concern for the Internet than most elected officials can muster.

In a city that rewards big lobbying budgets and high-power connections, the 150 attendees of the Internet Commons Congress, which met recently in Rockville, Maryland, were mostly Washington outsiders working on grassroots campaigns often focused on changing the status quo.

This first Internet Commons Congress (ICC), organized by telecommunications analyst Daniel Berninger and New Yorkers for Fair Use, assembled several Internet communities. Participants included members of free speech groups, the free software movement, and privacy activists.

The idea for the event came from "the observation that there's only one Internet, but there are hundreds of campaigns to save the Internet," Berninger says. "There haven't been many victories among the grassroots and open Internet. If the leaders of these campaigns communicate... we can be a more effective force."

Berninger cited the original Napster's closing as a defeat for open Internet advocates, even though more than 60 million people used the download service. "That's enough people to elect a president, but not enough to stop Napster from shutting down," he says.

Berninger, who cofounded the VON Coalition and a handful of voice over Internet Protocol (VOIP) companies, has organized rallies promoting technology and opposing VOIP regulation. He hopes to rally the pro-Internet troops with events similar to the ICC every couple of months. A second event, focusing on an Internet commons treaty, is scheduled for May in Washington.

ICC participants debated issues ranging from Internet architecture to media concentration, from VOIP regulation to e-voting. Richard Stallman, leader of the free software movement, called in from a hospital bed and urged all encyclopedias, dictionaries, and learning materials to be distributed for free.

"If they aren't free, we should make (alternatives) and make the cost ones obsolete," Stallman told the ICC.

Stallman also railed against the current state of democracy in the U.S., saying public opinion takes a back seat to lobbying in all but a few major issues.

"We are in an era when democracy exists in form but not in substance," he added. "The sickness of democracy takes away the legitimacy of government and its actions."

While few participants went as far as Stallman - the audience even included some suit-wearers - ICC organizers did send out this notice before the event:

"The attack is wide and pervasive. Even our right to own and use computers inside our homes and offices, is under attack. The time has come to assemble and declare our rights. We call upon advocates and organizers, authors and coworkers, readers and singers, politicians and students, grandmothers and children of all ages... to join us."

Ian Peter, an Australian Internet pioneer, had a choice of attending the ICC or a United Nations summit on Internet governance in New York.

"What goes on in this room is far more important to the future of the Internet than what's going on in New York," Peter told ICC attendees.

The first ICC was a big success in getting Internet activists who'd never met to talk to each other and take the first steps toward presenting a united front, says Jay Sulzberger, who helped organize the ICC event and is a member of New Yorkers for Fair Use.

"They are fighting on different fronts, but it's all the same war," Sulzberger says of attendees. "There are a lot of agencies and a lot of senators and congressmen who'd be glad to hear from a lot of groups at once."

Sulzberger says he believes ICC will be the first step into organizing a more effective voice for Internet freedom advocates. "I think that things have changed," he says of the event's effect. "There's cooperation, there's

the hard line, and there's going on the offensive."

## Electronic Filing of Taxes Sets Record

Taxpayers have been filing electronic tax returns in record numbers, the Internal Revenue Service reported one week before the April 15 filing deadline.

The nation's tax collectors said Thursday that they received 5 million more electronically filed returns compared with the same time last year. That amounts to a 12 percent increase in tax returns filed electronically even before a flood of returns arrives during the last two weeks before the filing deadline.

The IRS expects to get enough electronically filed returns in the days leading up to the April 15th deadline to beat last year's record of 53 million e-filed returns.

Taxpayers filing their returns from home, using tax preparation software or an online filing service, marked the biggest increase. Home computer filers submitted more than 11 million returns so far, a 21 percent increase over last year.

Terry Lutes, a top official in IRS Information Technology Services, said the growth reflects taxpayers' increased comfort interacting with the IRS online. Millions of taxpayers have also used the IRS Web site to check up on their expected refunds.

"This isn't some experiment any more," he said.

Mirroring the increase in electronic filing from home, more filers used the free tax preparation software offered through the IRS web site. The free file program, in its second year, saw a 23 percent increase in participation. Taxpayers must meet certain qualifications to use the free tax software.

Lutes said the IRS expects to see growth exceeding 10 percent annually as more tax professionals adapt to the electronic system and more taxpayers purchase home computers and get comfortable using tax software.

The IRS probably won't make its congressionally mandated goal to get 80 percent of returns filed electronically by 2007, he said.

Tax software companies said they see more taxpayers using online services to file their returns.

Julie Miller, spokeswoman for TurboTax software maker Intuit Inc., said the company has seen sales increase faster in online tax preparation than desktop software sales. Intuit participates in the IRS free filing programs.

In past years, taxpayers who decided to file electronically used to be old fashioned paper filers, Miller said. Recently, the company has noticed taxpayers moving away from asking tax professionals to prepare their returns and are filing electronically on their own.

"I think a lot of it is based on the IRS putting some muscle behind

increasing awareness," she said.

Craig Petz, a vice president at Petz Enterprises Inc., which runs the online tax preparation service TaxBrain, said that half of their users migrate to the Web from traditional paper filing. About 30 percent chose to use stop paying a professional and use the online service instead.

Petz said he would like to see the IRS do more to motivate taxpayers to file electronically by addressing taxpayers' concerns about electronic services.

"They need to be assuring the public about security and privacy," he said.

### Meet the Movers Behind the First PC

If Sir Isaac Newton hadn't already said it, any of this year's four recipients of the National Academy of Engineering's Draper Prize might well assert, "If I have seen further, it is by standing on the shoulders of giants."

Although few outside of the world of computer research might know who they are, Bob Taylor, Alan Kay, Charles "Chuck" Thacker, and Butler Lampson probably should be household names. These four are this year's winners of the prestigious Draper Prize, which recognizes contributions in engineering. As part of the first "class" of researchers at Xerox's Palo Alto Research Center in California in the 1970s, these technologists were key to the invention of the PC.

Today, most of us take PCs, networks, e-mail, laser printers, electronic publishing, and the Internet for granted. But someone had to invent the technologies that are so ubiquitous now.

Together at PARC, the four designed and built in 1973 the first device that resembled what we now know as the personal computer. It's pretty much agreed that Taylor was the "impresario" who guided the project, Kay supplied the vision (including laptops and tablet PCs replete with wireless connections), Thacker engineered the computer known later as the Xerox Alto, and Lampson created its operating system.

That isn't all. Kay came up with many elements we now consider standard on any window-oriented system: icons, overlapping windows, and the concept of clickable objects on a desktop. Thacker's and Lampson's names appear - with those of two other PARC alumni, Bob Metcalfe and David Boggs - on the patent for the Ethernet networking standard. Another PARC colleague, Gary Starkweather, invented the laser printer, and still another, Charles Simonyi, created the first graphical word processor.

Their basic goal was to invent what Apple later commercialized in 1984 with the Mac: "A computer for the rest of us." They also fought longstanding misperceptions that computers were for an elite priesthood of technologists who tended air-conditioned, multithousand-pound behemoths that only governments and big businesses could afford, and that only the dweebi-est of dweebs could operate.

"The great majority of computing experts, plus the leading computer manufacturers, rejected these ideas as absurd," Taylor says in a prepared statement about his recognition. "A Xerox senior manager once said to me,

'If this is such a good idea, why isn't IBM working on it?'" Thinking like that left Xerox in the dust when established tech firms - like IBM - and new, nimbler competitors - like Apple and Compaq - began producing personal computers that were both affordable and usable for the average person.

But the foursome's work was more than that. The founding group of PARC researchers, under Taylor's guidance, envisioned and then invented the "office of the future." Much of what you see today at work and home comes from a four-year burst of creativity by fewer than 100 PARC researchers. The 2004 Draper Prize winners were recognized as the catalysts of that "golden age" of computer research.

Even today, all four engineers humbly point to other, earlier innovations and researchers as having laid groundwork for their accomplishments.

"At PARC we stood on the shoulders of giants," Lampson says, paraphrasing Newton.

For instance, it wasn't PARC (nor Microsoft or Apple) that developed the mouse; that device originated in the mid-1960s at Stanford Research Institute, a still-extant, for-profit think tank in the adjacent town of Menlo Park, California (the same outfit that created those funny numbers printed in magnetic ink at the bottom of your checks, and the computers that process them).

And what we now call the Internet began in the 1960s with a project, funded by the Department of Defense's Advanced Research Projects Agency, that was originally named ARPANet. Taylor, who in the 1960s worked for NASA and later for ARPA - which still funds basic research as DARPA (the D stands for Defense) - helped fund both projects.

After joining Xerox, Taylor assembled PARC's founding research team, including Kay, Thacker, and Lampson. Taylor retired in 1996. The others continue to envision and innovate. Kay, a Hewlett-Packard Fellow and president of Viewpoints Research Institute, pursues an ongoing interest in childhood education.

Perhaps ironically, Lampson and Thacker both now work at Microsoft, as does laser printer inventor Starkweather. Simonyi, who crafted the Bravo graphical word processor at PARC, created Word after moving to Microsoft in 1981; he retired two years ago.

Thacker and Lampson also worked on Microsoft's Tablet PC technology. Former colleague Kay originated the idea back at PARC as "the Dynabook," a handheld, lightweight, notebook-size computer that is easily carried and has a flat, writable screen and a wireless connection to the world around it. Sound familiar?

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